

**REMARKS**

This is in response to the Office Action dated February 1, 2006. Claims 1-2, 4-8, 11-16, 18-23, 26-27 and 30-33 are now pending.

Claim 1 stands rejected under 35 U.S.C. Section 103(a) as being allegedly unpatentable over Glaser in view of Depauw. This Section 103(a) rejection is respectfully traversed for at least the following reasons.

Claim 1 requires a second layer comprising zinc oxide located over and contacting the layer consisting essentially of the oxide of NiCr. For example, the instant specification explains that the use of a layer comprising zinc oxide located over and contacting the oxide of NiCr (which is over and contacting an IR reflecting layer) unexpectedly and surprisingly results in higher visible transmission, improved thermal stability upon heat treatment, lower sheet resistance, and lower emissivity. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification. In order to stress these unexpected results, claim 1 has been amended to require that *“when measured monolithically following heat treatment the coated article has a visible transmission of at least 80%, a sheet resistance ( $R_s$ ) of less than or equal to 2.5 ohms/square, and a normal emissivity ( $E_n$ ) of less than or equal to about 0.04.”* The cited art fails to disclose or suggest these features recited in claim 1.

Glaser merely discloses, from the glass substrate outwardly, a layer stack portion of Ag/NiCr/SnO<sub>2</sub>/Bi<sub>2</sub>O<sub>3</sub>. Thus, Glaser clearly fails to disclose or suggest a second layer comprising zinc oxide located over and contacting a layer consisting essentially of the oxide of NiCr as recited in claim 1. Furthermore, Glaser also fails to disclose or suggest heat treatment, let alone a heat treated coated article that can achieve a desirable combination following heat treatment of the combination of visible transmission of at least 80%, sheet resistance ( $R_s$ ) of less than or equal

to 2.5 ohms/square, and a normal emissivity ( $E_n$ ) of less than or equal to about 0.04 as recited in claim 1. Glaser teaches directly away from the invention of claim 1 in this regard, because Glaser's single silver coating only has a visible transmission of 77% - much less than that required by claim 1 (note: single silver coatings such as Examples 1-2 of Glaser typically have a transmission much higher than do like double silver coatings due to the additional light-absorbing layer(s) used in double silver coatings).

Citation to Depauw cannot cure the aforesaid fundamental flaws of Glaser. Depauw discloses the use of zinc oxide over a titanium or stainless steel contact layer (not over a layer consisting essentially of an oxide of NiCr as called for in claim 1). There is no suggestion or motivation in Depauw or Glaser to provide a layer comprising zinc oxide over and contacting a layer consisting essentially of an oxide of NiCr as called for in claim 1.

The Office Action on page 4 contends that it would have been obvious to have placed a zinc oxide layer above each of the sacrificial metal layers in Glaser. However, even if these were done (which applicant does not believe would be obvious), the invention of claim 1 still would not be met. This is because claim 1 requires a heat treated coated article that can achieve a desirable combination following heat treatment of the combination of visible transmission of at least 80%, sheet resistance ( $R_s$ ) of less than or equal to 2.5 ohms/square, and a normal emissivity ( $E_n$ ) of less than or equal to about 0.04. Both Glaser and Depauw fail to disclose or suggest this. For instance, as explained above, Glaser's single silver coating only has a visible transmission of 77% - much less than that required by claim 1 (note: single silver coatings such as Examples 1-2 of Glaser typically have a transmission much higher than do like double silver coatings due to the additional light-absorbing layer(s) used in double silver coatings – thus adding another IR reflecting layer as called for in claim 1 would actually decrease the transmission making Glaser

even further from claim 1). Furthermore, Depauw also cannot achieve these features (e.g., Depauw's emissivity of 0.08 is well above that called for in claim 1 – its sheet resistance would also be well outside of the claimed range. Thus, even the alleged combination would not meet the invention of claim 1.

Additionally, while Depauw teaches to place zinc oxide over titanium, aluminum, stainless steel, bismuth, or tin, there is no teaching or suggestion in Depauw (or in Glaser) to position zinc oxide over an oxide of NiCr. Hindsight is not permitted.

Still further, while applicant disagrees that there is any *prima facie* case of obviousness in this respect, the clear *unexpected results* associated with the invention of claim 1 rebut any possible *prima facie* case of obviousness. For example, the instant specification explains that the use of a layer comprising zinc oxide located over and contacting the layer comprising the oxide of NiCr (which is over and contacting an IR reflecting layer) unexpectedly and surprisingly results in higher visible transmission, improved thermal stability upon heat treatment, lower sheets resistance, and lower emissivity. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification. Accordingly, it is respectfully requested that the Section 103(a) rejection based on Glaser and Depauw be withdrawn.

The Section 103(a) rejections based on (a) Hartig and Depauw, and (b) Lemmer and Depauw, should likewise be withdrawn. These references fail to disclose or suggest the claimed desirable combination following heat treatment of visible transmission of at least 80%, sheet resistance ( $R_s$ ) of less than or equal to 2.5 ohms/square, and a normal emissivity ( $E_n$ ) of less than or equal to about 0.04 as recited in claim 1. There is also no suggestion in the cited art for the alleged modifications. Still further, while applicant disagrees that there is any *prima facie* case of obviousness in these respects, the *unexpected results* associated with the invention of claim 1

rebut any possible *prima facie* case of obviousness. For example, the instant specification explains that the use of a layer comprising zinc oxide located over and contacting the layer comprising the oxide of NiCr (which is over and contacting an IR reflecting layer) unexpectedly and surprisingly results in higher visible transmission, improved thermal stability upon heat treatment, lower sheet resistance, and lower emissivity. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification. Accordingly, it is respectfully requested that the other Section 103(a) rejections also be withdrawn.

The inventions of claims 15, 30 and 32 also require that when measured monolithically following heat treatment the coated article has a visible transmission of at least 80%, a sheet resistance ( $R_s$ ) of less than or equal to 2.5 ohms/square, and a normal emissivity (E) of less than or equal to about 0.04. As explained above, the cited art fails to disclose or suggest these requirements, either alone or in the alleged combination(s). Furthermore, the unexpected results associated with the use of the claimed inventions rebuts any allegation of obviousness. E.g., see paragraphs [0009], [0010], [0018], [0030], [0031] and [0046] of the instant specification. Any alleged *prima facie* case of obviousness is rebutted. Accordingly, it is respectfully requested that the Section 103(a) rejections be withdrawn as to these claims as well.

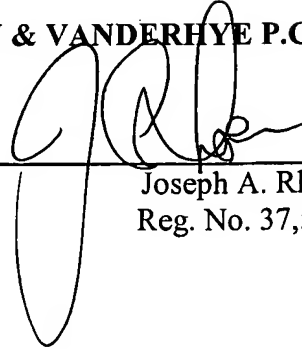
It is respectfully requested that all rejections be withdrawn. All claims are in condition for allowance. If any minor matter remains to be resolved, the Examiner is invited to telephone the undersigned with regard to the same.

DIETRICH et al.  
Appl. No. 10/797,580  
May 1, 2006

Respectfully submitted,

**NIXON & VANDERHYE P.C.**

By:

A handwritten signature in black ink, appearing to read 'JAR', is written over a horizontal line. The signature is stylized with large loops and a long vertical stroke extending downwards.

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